

SEVEN NEW GEKKONID LIZARDS
FROM WESTERN AUSTRALIA

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ABSTRACT

Two new subspecies and five new species of gecko are described from northern Western Australia, viz. *Crenadactylus ocellatus naso*, *C. o. rostralis*, *Diplodactylus mcmillani*, *D. wombeyi*, *D. fulleri*, *Gehyra nana* and *G. xenopus*.

INTRODUCTION

The terminology in the following descriptions is generally that of Kluge (1967), except that his 'anterior nasal' is here called 'prenasal'. Contrary to Bustard's usage (1965), my counts of subapical lamellae in *Gehyra* do not include the distal azygous scale on the expanded pad of the fourth toe.

All cited specimens are lodged in the Western Australian Museum.

NEW TAXA

CRENADACTYLUS OCELLATUS NASO SUBSP. NOV.

Holotype

R56206 in Western Australian Museum, collected on 2 November 1976 by Messrs L.A. Smith and R.E. Johnstone at Crystal Creek, Western Australia, in 14° 30'S, 125° 47'E.

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Diagnosis

A striped subspecies of *C. ocellatus*; distinguishable from *C. o. rostralis* by rostral entering nostril, and from *C. o. horni* by flatter head, longer snout, shallower rostral (3.8 or more times as wide as deep, vs 3.8 or less times as wide as deep), more numerous internasals (3-4, vs 0-2), more numerous interorbitals (usually more than 24, vs usually fewer than 24), and more numerous loreals (12 or more, vs 11 or fewer).

Distribution

Subhumid northwest Kimberley, including Heywood Island, in *Triodia* growing on sandstone.

Description

Snout-vent length (mm): 26-31 (N 9, mean 28.1). Tail (% SVL): 68-100 (N 4, mean 88).

Rostral quadrangular, 3.8-5.0 (N 9, mean 4.3) times as wide as deep; median groove extending down 0-30% of scale. Nostril surrounded by first labial, rostral, two supranasals (anterior larger), and 2-3 (N 9, mean 2.9) postnasals. Internasals 3-4 (N 9, mean 3.2). Interorbitals 22-29 (N 8, mean 26.1). Loreals 12-17 (N 8, mean 13.7). Upper labials 9-10 (N 7, mean 9.3), 7-9 (N 8, mean 7.9) to middle of eye. Preanal pores 2 or 3 on each side, forming a continuous curving series (bowed slightly forwards); each pore located in notch at rear of squarish scale, scales increasing in size towards midline.

Dorsally and laterally pale olive brown, with 5 pale longitudinal stripes, each edged with dark brown: vertebral stripe from nape to base of tail, very slightly paler than ground colour and thus barely discernible; white dorso-lateral line from snout to middle of tail; wide, slightly wavy midlateral stripe from eye and angle of mouth to base of tail, partly interrupted by hindleg, somewhat paler than ground colour and thus more conspicuous than vertebral stripe. Labials blotched with dark brown. Under surface white, usually dotted sparsely with brown.

Remarks

This gecko was found in the same tussocks of spinifex as *Diplodactylus mcmillani* but seemed to be much less plentiful than that species (L.A. Smith, pers. comm.).

For description and distribution of the populations of *C. ocellatus* from south of the Kimberley Division, see Dixon & Kluge (1964). Their segments

3 and 5 comprise the striped subspecies *C. o. horni* (Lucas & Frost) of arid Western Australia and Central Australia, and segments 1, 2 and 4 the spotted subspecies *C. o. ocellatus* (Gray) of southwestern Western Australia.

Paratypes

Kimberley Division: Crystal Creek, Port Warrender (56185-7); Mitchell Plateau in 14°57'S, 126°00'E (43220-1, 43224); Heywood I. (41373-4).

CRENADACTYLUS OCELLATUS ROSTRALIS SUBSP. NOV.

Holotype

R32154 in Western Australian Museum, collected in April 1968 by Mr W.H. Butler at Geikie Gorge, Western Australia, in 18°07'S, 125°39'E.

Diagnosis

A striped subspecies of *C. ocellatus*, distinguishable from all other subspecies by prenasal widely excluding rostral from nostril.



Plate 1: Holotype of *Crenadactylus ocellatus rostralis*.



Fig. 1: Map of Kimberley Division, Western Australia, showing location of specimens of *Crenadactylus ocellatus naso* (solid circles) and *C. o. rostralis* (hollow circles).

Distribution

Arid and semiarid south and east Kimberley, north to the Napier Range, Geikie Gorge and Lake Argyle, in *Triodia* growing on stony hills and gravelly plains.

Description

Snout-vent length (mm): 22-32 (N 18, mean 26.7). Tail (% SVL): 84-100 (N 10, mean 93).

Rostral quadrangular, 3.2-5.0 (N 18, mean 4.0) times as wide as deep; median groove extending down 0-20% of scale. Nostril surrounded by first labial, a large prenasal, a supranasal, and 2-3 (N 14, mean 2.7) postnasals. Internasals 1-3 (N 16, mean 2.1). Interorbitals 19-23 (N 13, mean 21.8). Loreals 10-14 (N 16, mean 12.2). Upper labials 8-11 (N 14, mean 9.1), 6-9 (N 16, mean 7.4) to middle of eye. Preanal pores as in *C. o. naso*.

Coloration at Lake Argyle much the same as in *C. o. naso*, except for the dorsolateral stripe being no paler or narrower than the midlateral stripe; but

elsewhere the pale stripes are so wide as to leave no ground colour and to be separated only by their dark margins.

Coloration elsewhere. Head brown. Back and sides pale olive brown with 4 brown longitudinal stripes: on each side a paravertebral back to middle of tail, diverging from its opposite number on nape and occiput and terminating above eye; and an upper lateral extending back to middle of tail and forward to snout. Lower labials blotched with dark brown. Lower surface olive white with up to 5 indistinct longitudinal brown stripes: a medioventral, and on each side two lateroventrals.

Remarks

There is considerable geographic variation. Colour pattern in the north approaches that of *C. o. naso*; in the south it approaches that of *C. o. horni*. In the west (Napier Range and Mt Anderson) the head is almost as flat and the snout almost as long as in *C. o. naso*; in the far southeast (Wolf Creek) they are much the same as in *C. o. horni*, and the number of internasals (1-2) is fewer than elsewhere (2-3).

Paratypes

Kimberley Division: Lake Argyle (56441-5); Napier Range (26824-6); Mt Anderson (27388-92); 10 km E of Margaret River HS (46115); 45 km SE of Halls Creek (23058); near Wolf Creek Meteorite Crater (46058-9).

DIPLODACTYLUS MCMILLANI SP. NOV.

Holotype

R43230 in Western Australian Museum, collected by Messrs L.A. Smith and R.E. Johnstone on 20 February 1973 on the Mitchell Plateau, Western Australia, in 14°57'S, 126°00'E.

Diagnosis

A large, short-tailed, moderately stout *Diplodactylus* of the *michaelseni* group with prenasal as large or nearly as large as first upper labial and broadly excluding rostral from nostril. Further distinguishable from *D. taeniatus* and *D. michaelseni* by more numerous nasals (6-8, usually 7; vs 3-6, mostly 4 or 5) and in lacking a pale streak along canthus rostralis.

Distribution

Subhumid northwest Kimberley, in *Triodia* growing on sandstone.



Plate 2: A *Diplodactylus mcmillani* from Crystal Creek, photographed by R.E. Johnstone.

Description

Snout-vent length (mm): 37-53 (N 39, mean 44.4). Tail (% SVL): 52-74 (N 29, mean 61.0).

Rostral hexagonal or hemi-elliptic, 2.4-3.8 (N 38, mean 2.9) times as wide as deep; median groove extending down 25-55% of scale. Nostril surrounded by first labial, prenasal, 2-3 (usually 2) supranasals, and 3-5 (usually 4, rarely 5) postnasals. Internasals 0-5 (N 28, mean 2.5). Interorbitals 29-34 (N 18, mean 31.8). Loreals 15-20 (N 27, mean 17.6). Upper labials 12-17 (N 39, mean 13.8), 9-14 (N 37, mean 11.2) to middle of eye. Lamellae under fourth toe 6-9 (N 26, mean 7.5), distal 3-6 (N 26, mean 4.1) undivided.

Dorsally and laterally olive grey with or without 4 lines of dark brown dots along back (presumably the margins of obsolete stripes). White upper lateral stripe, edged with a series of dark brown dots, from eye to end of tail. Greyish-white dark-edged ventrolateral stripe from foreleg to hindleg. Faint dark-edged dorsolateral stripe and faint midlateral line usually just discernible (in 37696 the stripes are so suffused with ground colour that they are less discernible than their dark margins).

Remarks

This species is named after Mr R.P. McMillan, an Honorary Associate of the Western Australian Museum and generous donor of many reptile and other specimens.

In its size, relatively robust habit, short tail, coloration, less flattened facial and dorsal granules, and high number of upper labials, loreals and interorbitals, *D. mcmillani* is unexpectedly more like the distant *D. michaelsoni* than adjacent *D. taeniatus* (which reaches south and east Kimberley). For description and distribution of *D. michaelsoni* and *D. taeniatus*, see Storr & Ford (1967).

Paratypes

Kimberley Division: Crystal Creek, Port Warrender (43039-41, 43064-5, 43076-8, 56188-205); Mitchell Plateau in 14°40'S, 125°40'E (43125-6) and 14°57'S, 126°00'E (43222-3, 43225-9); King Edward River (presumably in 14°52'S, 126°12'E) (28186); Old Theda (57323); Drysdale River National Park in 15°03'S, 126°45'E (50536); Manning Creek (47696).



Fig. 2: Map of Kimberley Division, Western Australia, showing location of specimens of *Diplodactylus mcmillani*.

DIPLODACTYLUS WOMBEYI SP. NOV.

Holotype

R36747 in Western Australian Museum, collected on 18 June 1970 by Mr J.C. Wombey on the Cockeraga River, Western Australia, in 22°05'S, 118°48'E.

Diagnosis

A *Diplodactylus* of the *stenodactylus* group with moderately large apical plates and rostral entering nostril; apices of digits more strongly dilated than in other members of group, and subdigital granules larger, flatter and mostly arranged in pairs. Most like *D. alboguttatus* but lacking large white spots on flanks and limbs.

Distribution

Chichester Range, southern Pilbara.

Description

Snout-vent length (mm): 20-49 (N 6, mean 36.2). Tail (% SVL): 77-100 (N 5, mean 87).



Plate 3: A paratype of *Diplodactylus wombeyi*.

Rostral quadrangular, 2.0-3.1 (N 6, mean 2.6) times as wide as deep; median groove extending down 30-45% of scale. Nostril surrounded by first labial, rostral, 1-2 (mostly 2) supranasals, and 2-3 postnasals. Internasals absent, except in one specimen with one. Interorbitals 26-33 (N 6, mean 29.2). Loreals 14-18 (N 6, mean 15.8). Upper eyelid differentiated. Upper labials 9-11 (N 6, mean 10.7), 9-10 (mean 9.7) to middle of eye. Dorsal granules about as large as ventrals. Scales between cloaca and caudal constriction much larger than other caudals. One preanal pore on each side. Cloacal spur comprising 1-4 (usually 2) small spinose scales. 'Lamellae' under fourth toe 10-13 (N 6, mean 11.5).

Dorsal and upper lateral surfaces pale to moderately dark reddish brown with variable dark reddish brown markings; latter usually in form of irregular broken cross-bands, sometimes in form of reticulum. Canthus rostralis and upper labials sometimes whitish. Sides of body and upper surface of limbs usually dotted white.

Remarks

This species is named after Mr John C. Wombey of the CSIRO Division of Wildlife Research, who collected the entire type series. Four of the specimens were found under rocks, and one under a sheet of iron.

Paratypes

North-west Division: Cockeraga River (36597, 37061-4).

DIPLODACTYLUS FULLERI SP. NOV.

Holotype

R31331 in Western Australian Museum, collected in May 1968 by Mr M. De Graaf at 5 km W of the mouth of Savoury Creek, Western Australia, in 23°20'S, 122°40'E.

Diagnosis

A large robust *Diplodactylus* of the *stenodactylus* group with very small apical plates and rostral entering nostril. Most like *D. maini* but larger and with shorter tail, more numerous loreal granules and postanal tubercles, and fewer subdigital and interorbital granules.

Distribution

Arid interior of Western Australia, in vicinity of Lake Disappointment.



Plate 4: Holotype of *Diplodactylus fulleri*.

Description (of holotype, the only available specimen)

Snout-vent length (mm): 51. Tail (% SVL): 63.

Rostral quadrangular, 2.3 times as wide as deep; median groove extending half-way down scale. Nostril surrounded by first labial, rostral, 2 supranasals (anterior very large and forming long median suture with its opposite number), and 2-3 postnasals. No internasal. Interorbitals 23. Loreals 14-15. Upper labials 9, 8 back to middle of eye. Dorsal granules slightly larger than ventrals but much smaller than caudals, which are moderately large, rectangular, and strongly arranged in whorls. No preanal pores. Five large postanal tubercles. 16-17 transverse series of conical granules under fourth toe.

Back and sides pale reddish brown with an indistinct reticulum of darker reddish brown. Tail dark reddish brown, irregularly cross-banded with pale reddish brown. Under surface whitish.

Remarks

This gecko is named after Mr Phillip J. Fuller, who has donated numerous reptiles to the Western Australian Museum.

GEHYRA NANA SP. NOV.

Holotype

R28214 in Western Australian Museum, collected on 8 June 1965 by Dr A.K. Lee at the King Edward River, Western Australia, presumably in 14°52'S, 126°12'E.

Diagnosis

A small, spotted, reddish *Gehyra* with divided lamellae on subapical pads. Of the Kimberley species of *Gehyra*, most like *pilbara* but distinguishable by its smaller size, longer snout, less deep head, fewer subapical lamellae (mostly 6 or 7 under fourth toe, vs mostly 7 or 8), postnasal usually smaller (rather than larger) than posterior supranasal, scales above second and third labials not so greatly enlarged, absence of dark longitudinal streaks on side of head (*pilbara* has one through top of eye and one through middle of eye), pale dorsal spots smaller than dark dorsal spots (in *pilbara* they are absent or larger), and dark spots on tail not so clearly aligned into narrow cross-bands.



Plate 5: Holotype of *Gehyra nana*.

Distribution

North Kimberley, south to the Prince Regent River, Drysdale River National Park and Lake Argyle; also offshore from the Sir Graham Moore Is southwest to Melomys I.

Description

Snout-vent length (mm): 23-54 (N 95, mean 42.8). Tail (% SVL): 87-124 (N 28, mean 109.3).

Rostral 1.3-2.1 (N 90, mean 1.8) times as wide as deep; top very slightly to moderately dented; median groove extending down 30-65% of scale. Nostril surrounded by rostral, first labial, postnasal and two supranasals (anterior much the larger). Internasals 0-3 (N 91, mean 1.0). Upper labials 7-10 (N 91, mean 8.1). Lamellae on each side of subapical pad 5-8 (N 94, mean 6.6), usually in medial contact with their opposite number, but in 24% of specimens proximal 1-2 pairs of lamellae separated by a granule. Preanal pores 13-22 (N 30, mean 18.1); 14-16 femoral pores on each side of three Prince Regent River specimens.



Fig. 3: Map of Kimberley Division, Western Australia, showing location of specimens of *Gehyra nana*.

Dorsally and laterally reddish brown. Dorsal surfaces (including limbs) spotted with dark reddish brown and pinkish white; pale spots usually smaller and more numerous than dark spots. Spots on back and tail tending to be transversely elongate and to be aligned in transverse rows, a row of dark spots alternating with one or two rows of pale spots. Rostral and upper labials dark brown, except for their pale lateral margins. Under surfaces white.

Paratypes

Kimberley Division: Anjo Point (44075); Pago (43559-62); Kalumburu (27750-2, 27757-62, 56639); Crystal Creek (14°30'S, 125°47'E) (43062-3, 43079-81, 56167, 56211-2); Mitchell Plateau in 14°52'S, 125°50'E (40469-71, 43147, 43157); 2 km E of Mitchell River Falls (56357); King Edward River (28187, 28213, 28215-8); Prince Regent River Reserve in 15°07'S, 125°33'E (46883-4), in 15°20'S, 124°56'E (46831-2, 46837-8), in 15°25'S, 125°37'E (46710), and in 15°28'S, 125°59'E (46668-72, 46706-7); Drysdale River National Park (50330-2, 50400-3, 50414, 50465, 50507, 50675, 50783, 50797, 50802, 50811); 13 km NNE of Argyle Downs (42704); Sir Graham Moore Is (44051-5, 44065-6); South-west Osborne I. (44110); Bigge I. (41455); Boongaree I. (44088); St Andrew I. (44144); Augustus I. (40441); Darcy I. (41391); Heywood I. (41371-2); Champagny I. (41428-31); Kingfisher I. (44157-65); Melomys I. (44195).

GEHYRA XENOPUS SP. NOV.

Holotype

R56429 in Western Australian Museum, collected on 6 November 1976 by Mr R.E. Johnstone in a sandstone cave near the Port Warrender road crossing of the King Edward River, Western Australia, in 14°52'S, 126°12'E.

Diagnosis

A very large, spotted, greyish *Gehyra* with flat head, large eyes and long, somewhat retroussé snout (all making its profile crocodilian); subapical pads with divided lamellae, of which only the distal pairs are in median contact, the remainder being separated by a wedge-shaped patch of granules.

Distribution

Massive sandstone of subhumid northwest Kimberley, from Kalumburu southwest to the Prince Regent River; also offshore from Borda I. southwest to Champagny I.



Plate 6: A *Gekko xenopus* from Crystal Creek, photographed by R.E. Johnstone.

Description

Snout-vent length (mm): 39-79 (N 67, mean 68.3). Tail (% SVL): 106-130 (N 38, mean 116.4).

Supranasal region swollen. Rostral 1.7-2.3 (N 63, mean 1.9) times as wide as deep; top slightly to strongly dented medially; median groove extending down 10-60% of scale. Nostril surrounded by rostral, first labial, postnasal and two supranasals (anterior much the larger). Internasals 1-3 (N 64, mean 1.7). Upper labials 8-11 (N 62, mean 9.3). Lamellae on each side of subapical pad 8-11 (N 66, mean 9.6), of which the distal 2-5 pairs (N 65, mean 3.7) are medially contiguous, the remainder separated by 1-4 granules (the gap widening towards base of toe). Preanal pores 9-18 (N 28, mean 13.0).

Upper surface greyish brown or dark brown, spotted with brownish white and flecked with blackish brown. Spots on head small; spots on back fairly large and tending to be dark-edged and arranged transversely. Lower lips and chin brown. Rest of under surface white.



Fig. 4: Map of Kimberley Division, Western Australia, showing location of specimens of *Gehyra xenopus*.

Paratypes

Kimberley Division: Kalumburu (27753-5); Crystal Creek in 14°30'S, 125°47'E (43042-3, 43069-70, 56163-6, 56180-1); 2 km E of Mitchell River Falls (43177, 56356, 56417); King Edward River in 14°52'S, 126°12'E (56428, 56430); Prince Regent River Reserve in 15°19'S, 125°35'E (46775-7, 46779-80, 46796-8), in 15°20'S, 124°56'E (46818-9, 46822, 46830), and in 15°49'S, 125°33'E (46986-7); Borda I. (41488); South-west Osborne I. (44107-9, 44111, 44126); Katers I. (41468-70); Wollaston I. (41463); Boongaree I. (44086-7); Bat I., off Cape Brewster (44077); St Andrew I. (44143); Uwins I. (44136); Augustus I. (41283-4); Darcy I. (41392-6); Byam Martin I. (44152-3); Champagny I. (41432-3).

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